Application No. 08/959,748 Attorney Docket No. 07191.0009

## **AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions and listings of claims in the application:

Claims 1-8: Canceled.

- 9. (Previously Amended) A process for producing difluoromethane comprising the steps of:
- (A) preheating a composition comprising hydrogen fluoride and dichloromethane to form a vaporized and superheated composition;
- (B) reacting the preheated composition of step (A) in the presence of a fluorination catalyst under conditions suitable to form a product stream comprising difluoromethane, chlorofluoromethane, hydrogen chloride, dichloromethane and hydrogen fluoride;
- (C) recovering by distillation from the product stream of step (B) a high boiling fraction comprising hydrogen fluoride, dichloromethane, and chlorofluoromethane and a low boiling fraction comprising difluoromethane, hydrogen chloride, hydrogen fluoride, and reaction byproducts; and
- (D) recovering substantially pure difluoromethane from the low boiling fraction of step (C),

wherein the hydrogen fluoride and the chlorofluoromethane are present in the product stream in a mole ratio of from about 25:1 to about 75:1.

- 10. Canceled.
- 11. (Original) The process of claim 9 wherein the composition of step (A) further comprises chlorofluoromethane.

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Claims 12-16: Canceled.

- 17. (Original) The process of claim 9 wherein the high boiling fraction of step (C) is recycled to step (A).
- 18. (Previously Amended) The process of claim 9 wherein step (D) further comprises the substeps of:
- (E) treating the low boiling mixture-of step (C) in an hydrogen chloride distillation column or an aqueous hydrogen chloride absorption tower under conditions suitable to remove hydrogen chloride and trace hydrogen fluoride to form a crude difluoromethane product;
- (F) treating the crude difluoromethane product formed in step (E) with a first caustic scrubber under conditions suitable to form a neutralized product;
- (G) treating the neutralized product of step (F) in a second caustic scrubber under conditions suitable to form a substantially chlorine-free product;
- (H) treating the <u>substantially chlorine-free\_product</u> of step (G) with a sulfuric acid scrubber and subsequently with a solid desiccant to form a substantially moisture-free product; and
- (I) distilling the substantially moisture-free product of step (H) under conditions suitable to produce substantially pure diffuoromethane.

Claims 19-20: Canceled.

- 21. (Previously Presented) The process of claim 9 wherein the fluorination catalyst is a pretreated fluorination catalyst.
- 22. (Previously Presented) The process of claim 9 wherein the fluorination catalyst is chromium oxide.

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